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JULY 1956

AGRICULTURAL MARKETING

• MARKETING • STATISTICS •
SERVICES • RESEARCH



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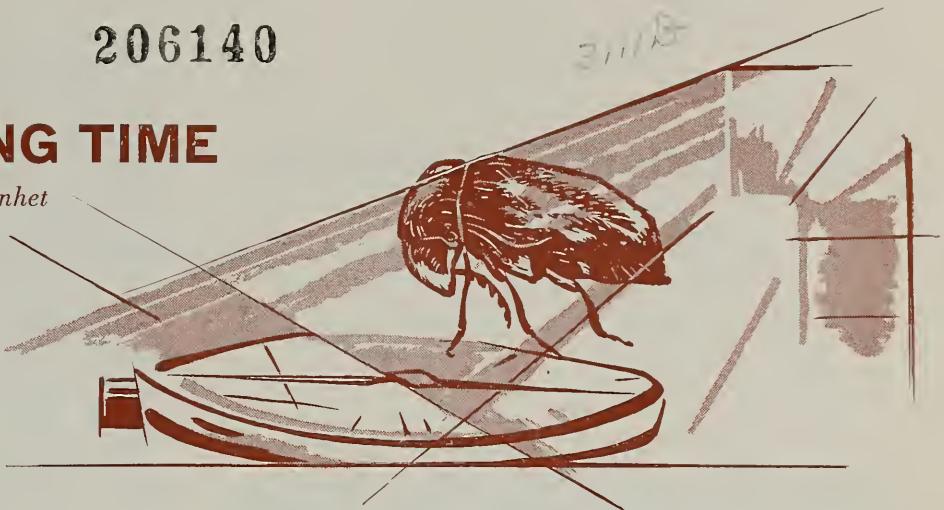
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Editor (acting) Milton Hoffman

Cigarette Beetle

SPRAYING TIME

By Joseph N. Tenhet



Insects with the tobacco habit give tobacco warehousemen a pain in the pocketbook and add to the costs of marketing. So, research entomologists in the Agricultural Marketing Service have been looking into improved methods to control them.

They have found the hours between 6 p. m. and midnight the best time to kill stored-product insects in tobacco warehouses. They recommend a summer program of pyrethrum sprays or aerosols during these hours, to coincide with the period of greatest activity of the cigarette beetle.

Usual industry practice has been to apply these sprays during the normal 7 a. m. to 4 p. m. working day. However, research demonstrated that most of the cigarette beetles—the more difficult to control of the 2 major insect pests—were in flight between 5 p. m. and 11 p. m. Thousands of beetles were caught in traps after 8 p. m. in warehouses sprayed that day.

Cigarette beetles are more than pests. Each year they cause several million dollars worth of damage to stored tobacco. It's not easy to get rid of them, especially in warehouses not built for effective fumigation.

Warehousemen can't reach all of the cigarette beetles with sprays. Not all adult cigarette beetles leave the hogsheads of stored tobacco. Those that do leave the hogsheads are active only in subdued light.

On the other hand, tobacco moths—the other great enemy of stored tobacco—are in flight a good part of the mating season, which lasts several days. Sprays or aerosols applied in the open spaces of the warehouses strike a large portion of those present.

In closed warehouses, where the light is subdued all the time, beetles tend to fly at selected periods other than at twilight. That flight continues into the night. Applications of sprays or aerosols made during the period of greatest activity should result in substantially better control of the cigarette beetle.

To find the best time for applying the spray, entomologists of the Marketing Research Division in AMS made detailed studies in Durham, N. C., warehouses. They selected ten 1-story tobacco warehouses with corrugated metal walls, 2 doors, and no windows. Near the center of each warehouse they placed a standard suction-light insect trap about 16 feet above the floor.

They sprayed 5 of the warehouses with a pyrethrum aerosol 6 times a week; the other 5 were not sprayed. Initial trap catches indicated that flight activity largely was confined to late afternoon and night.

Ninety percent of the flight activity in unsprayed warehouses was between 2 p. m. and 2 a. m. During this 12-hour period, 77 percent of the catch was made between 5 and 11 p. m.; 60 percent between 6 and 10 p. m.

In the 5 warehouses sprayed daily during the late afternoon with a pyrethrum aerosol, peak catches did not take place until about 8 p. m. The exceedingly low catches before 8 evidence the effectiveness of the aerosol. The late afternoon spray did not reach a proportionally large number of beetles, for they were active after the period of treatment.

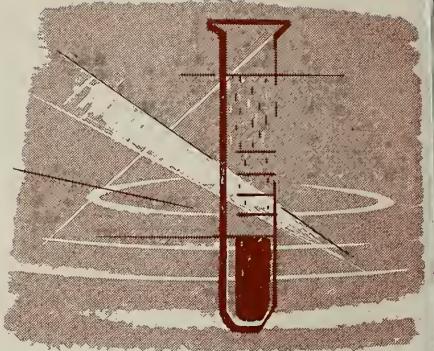
To determine the relationship between the time of cigarette beetle emergence from the hogsheads and the period of greatest flight activity, researchers put 2 heavily infested hogsheads in an insect-tight, cloth-covered cage in a closed warehouse. There were no lights in or near the cage.

Strips of tanglefoot paper were laid over the top of each hogshead and replaced at 3-hour intervals. The time of emergence from the hogsheads was indicated by the beetles trapped in the tanglefoot.

An average of 76 percent of the day's emergence took place between 2 p. m. and 2 a. m. This shows a close correlation with the period of flight activity in the untreated warehouses.

THE SEDIMENTATION TEST as an index of baking quality

By A. J. Pinckney, W. T. Greenway, and L. Zeleny



The sedimentation test originally developed by research chemists of the Grain Division, Agricultural Marketing Service, to test the bread-baking quality of hard wheat has been altered. It can now also be used to determine the bread-baking quality of soft wheat.

Since cake and pastry are made chiefly from soft wheat the test may prove useful in evaluating wheat used for these products.

The test is a very simple, rapid, and inexpensive way of determining the baking quality of wheat. It is a combined measure of the quantity and quality of gluten in wheat. Gluten is the protein material that gives bread dough its elastic properties.

The test's principal advantages over the conventional Kjeldahl protein test are its simplicity, speed, and the fact that it reflects differences in protein quality. Protein content as determined by the Kjeldahl test is a useful index of bread-baking quality, but wide differences in gluten quality limit the value of this test.

The sedimentation test is being used to some extent by the grain trade. It may eventually be used in the routine inspection of wheat, either through incorporation into the official grain standards or as a supplemental service offered by grain inspectors.

Many different factors, some of them not completely

understood, affect the baking quality of wheat. And various standards are used to judge the quality of bread. Experimentally, the volume of the loaf is commonly considered one of the most important characteristics. But there are also other factors.

When other factors are properly controlled, the loaf volume is closely related to the quantity and quality of the protein present in the flour.

The importance of the protein content of wheat is well recognized throughout the grain trade. Protein is often a major factor determining the market value of wheat. High-protein wheat usually demands a premium price, often as high as 50 cents a bushel in grain markets. Some grain exchanges provide the Kjeldahl test as a special service.

One reason for not incorporating protein as a factor in the standards for wheat is that the method and equipment for making protein tests are too cumbersome, time consuming, and expensive to be practical.

Today, the standards determine the potential bread-baking quality by the percentage of dark, hard, and vitreous, or hard, kernels in the wheat. Ordinarily, kernel texture is a very crude index of protein content.

Because of this, marketing researchers set out to develop a simple, practical test for use in the routine



Typical loaves of bread made from different qualities of flour.



Typical sedimentation test results.

inspection of wheat. They hoped this test would also provide a more adequate classification of wheat in terms of potential bread-baking quality. Shortly thereafter they reported on the simple sedimentation test.

The test does not require expensive equipment or technical skill. The equipment consists of motor-driven, corrugated steel rolls and a 100-mesh sieve used to prepare the flour from the wheat; glass-stoppered graduated cylinders; pipettes; a stop watch; a balance; and a mixer.

The procedure itself is simple and rapid. It may be completed in 15 minutes and a number of tests can be made at the same time.

In making the test, a small quantity of flour is prepared from the wheat by a simple, rapid milling process. A weighed portion of the flour is mixed with a definite quantity of water in a cylinder.

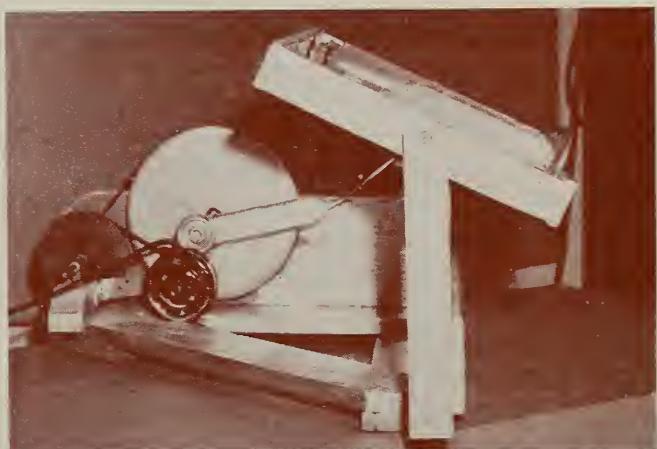
Then a small amount of lactic acid and isopropyl alcohol is added with further mixing. After settling for 5 minutes, the volume of the sediment is determined by reading the cylinder scale.

The sediment consists chiefly of swollen gluten particles. The volume of the sediment depends on the quantity of the gluten present and the degree to which it has swollen. The swelling capacity of the gluten is closely related to baking quality.

From the protein content and the sedimentation value, a figure may be derived which is a measure of the swelling capacity of the gluten and of the baking quality of the flour.

To determine the usefulness of the test, researchers made large numbers of milling, baking, protein content, and sedimentation tests on samples of commercial and experimentally grown wheat over a period of years.

Comparisons of the results show that in most cases the sedimentation test is approximately equal to and in some seasons is superior to the Kjeldahl tests as an index of wheat quality.



A shaker for mixing samples of flour, water, and lactic acid in determining the baking quality of wheat by the sedimentation method.



AGRICULTURAL MARKETING SERVICE researcher adding lactic acid to a mixture of wheat flour and water prior to shaking.



MARKETING MILK

with Federal Orders

By H. L. Forest

Take a map and draw in the sizable milk supply areas around 65 of the Nation's leading cities. These are the milk sheds where nearly 190,000 dairy farmers are operating under Federal milk marketing orders. In these areas, as a means of maintaining orderly marketing of milk, all handlers of milk must pay farmers not less than specified uniform minimum prices for milk.

This setup contrasts sharply with the days when dairy farmers lacked cooperative marketing bargaining power. Often—as individuals—they were powerless in the grip of ruinous price fluctuations. There were price wars and farmer distress, sometimes violence and the dumping of milk.

Today, approximately one-third of all the milk sold wholesale by farmers is marketed under the terms of the Federal orders. In terms of fluid milk for city markets the ratio is even higher. Approximately half the urban population of the United States is being served from the supply of milk marketed under Federal orders.

The North Atlantic and Central States use Federal milk orders more extensively than any of the other regions. Nearly 60 percent of all milk sold wholesale by farmers to milk plants in the North Atlantic States is sold under the terms of the seven Federal orders effective in that region.

Dairymen supplying several large northeastern markets have been marketing milk under Federal milk orders for many years. The Boston milk order has been in effect for 20 years, the New York order for 18 years, the Philadelphia order 14 years.

In recent years, more dairymen in other areas have requested and adopted Federal milk orders. At the end of 1949, more than half the milk being priced by orders was in the North Atlantic States. Today the milk priced in this region represents less than 40 percent of the total.

During the present decade dairymen supplying 15 markets in the North Central regions, 12 markets in the

South Central area, 2 markets in the Northwest and 1 area in the Mountain States have adopted Federal milk orders.

Thirty percent of the milk delivered by farmers as milk to plants in the North Central region is priced under Federal milk orders today as compared with 21 percent in 1949. In the South Central region, the growth has been even greater. Only 14 percent of the milk sold wholesale by farmers in this region was priced in 1949 by Federal milk orders. Approximately 39 percent of milk sold by farmers to plants in this area is now sold under the terms of milk orders.

Why are more dairymen in more areas turning to the Federal order system of marketing?

An important factor in the expansion of the Federal milk order program is the growth of cooperative marketing of farm products. Federal milk orders help in the cooperative marketing of milk by producers. As more dairymen have marketed their milk cooperatively, they have found that they can make their marketing plans more effective under Federal orders.

Reported memberships in farmer cooperatives totaled 7.6 million in the 1953-54 fiscal year. This was 2 percent higher than the previous year and substantially above the 3.4 million memberships reported in 1940-41. The dairy products marketing cooperatives are an important segment of the farmer cooperatives. They account for almost a third of the net value of all farm products handled by cooperatives.

The incentive to get the best possible return from marketings has been particularly important in recent years to dairymen caught between higher costs and lower prices. For aid in achieving better marketing conditions dairymen look first to their local cooperatives. Dairy farmers through their cooperatives have developed in most fluid milk markets orderly systems of pricing which are negotiated by the cooperatives with wholesale milk buyers.

The very nature of fresh, fluid milk makes it impossible for the individual dairy farmer to bargain effectively for the price to be paid for each delivery. Fluid milk moves daily from farm to consumer through a channel of assembly plants, processing plants, and distributing stations. Because it is highly perishable it must be moved promptly.

Most milk marketed by farmers for sale in city markets is priced according to a classified system. All Federal milk orders employ the classified price plan and in many other markets handlers buy milk voluntarily on such a pricing system.

Under the classified price plan, milk sold by the distributor as fluid milk is paid for at the Class I price (the highest price). The buyer, however, accepts all milk delivered by farmers with the understanding that he will pay, for the excess over his fluid sales, a price that will permit him to dispose of it in the form of manufactured products without a loss. Milk used to manufacture dairy products generally commands a lower price than milk for fluid sales.

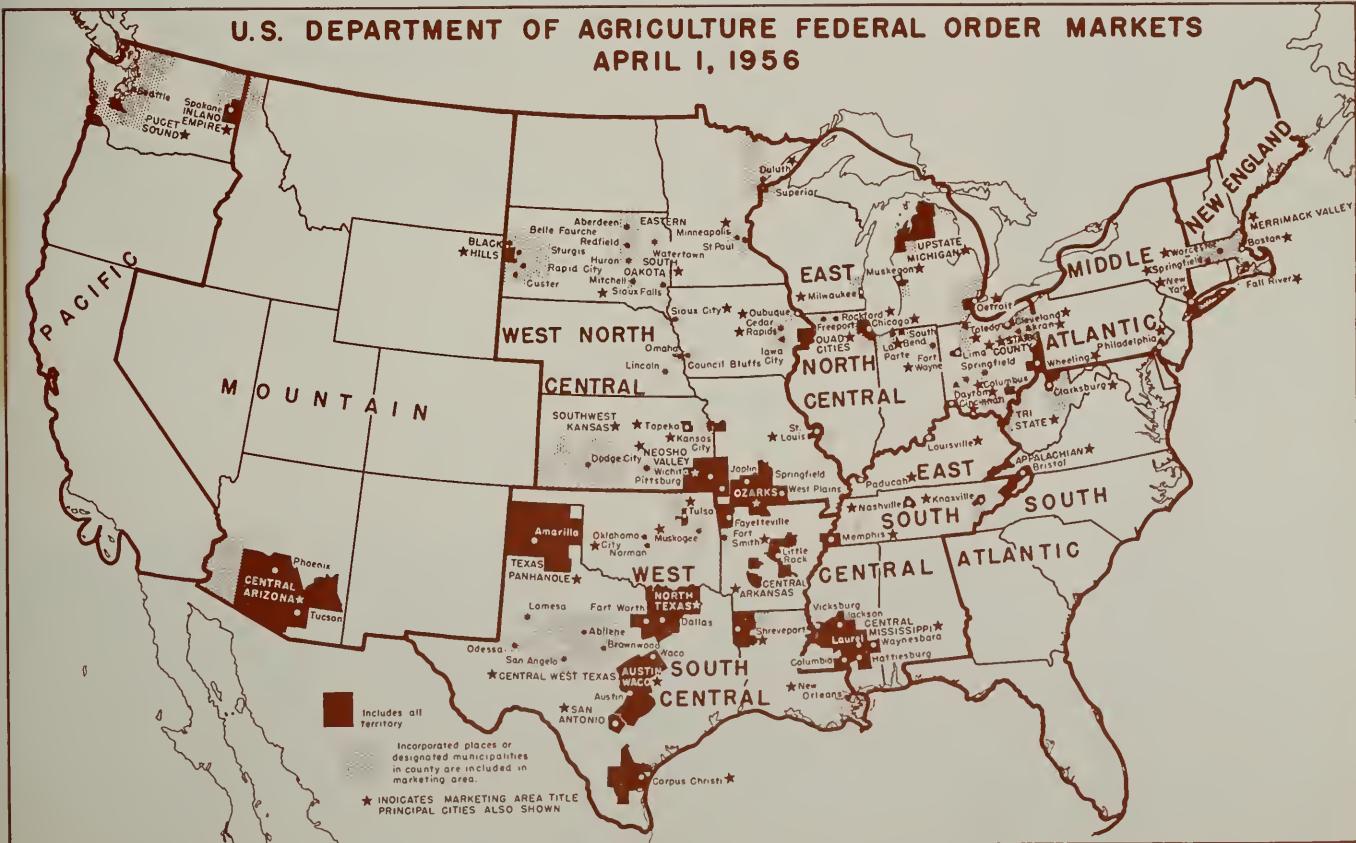
In many fluid milk markets the classified pricing system is used by buyers and sellers, on a voluntary basis, to maintain an orderly market. But in some areas buyers refuse to bargain with producers or their representatives for prices and terms of sale.

Sometimes different producer groups supplying the same market fail to reconcile their different views about pricing. In order to gain a foothold in a market, one handler may cut its sale price below the market value. This move is usually followed by a reduction in price to all producers supplying the market.

Federal milk orders establish a system of minimum prices paid to producers which applies uniformly to all handlers who purchase milk for sale in the regulated market. The minimum prices are determined by the U. S. Department of Agriculture on the basis of supply and demand conditions in the market which have been described at a public hearing. Producers, handlers, and consumers may appear at these public hearings to present information about the milk market.

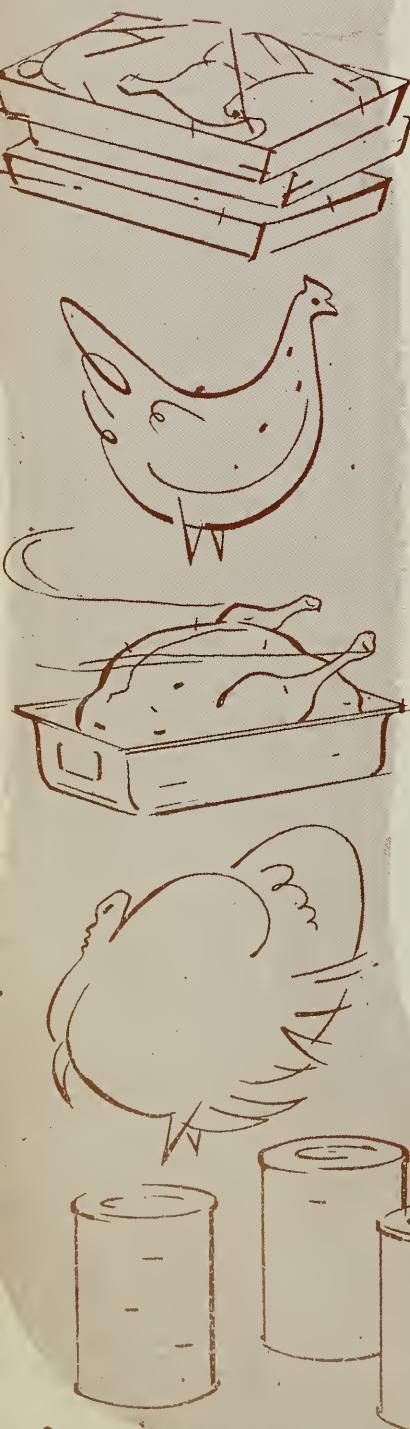
Federal milk marketing orders are issued only for markets in which dairy farmers request the program. Before an order may be issued, it must be approved by at least two-thirds of the dairy farmers affected by the order. If producers approve the order as recommended by USDA, the price plan can be put into effect.

Although producers as a group may choose between marketing their milk under a Federal milk order or not, the Department specifies the terms of the order. This is to assure that the orders contain provisions which are fair to all groups and are in the public interest.



TRENDS IN POULTRY MARKETING

By Mar-



Fresh air, sunshine, and plenty of chicken (see cover).

That's a combination hard to beat. It's no wonder that people are eating more and more poultry.

We're not marketing it the way we used to, to be sure. At the turn of the century, refrigeration opened the door to processed poultry and its movement to distant markets. The era of New York-dressed poultry held sway until World War II.

During the war, the demand for ration-free poultry grew phenomenally. Processors worked out methods for marketing drawn poultry that gave rise to the eviscerated poultry business.

About 50 percent of the poultry moving through wholesale channels in 1950 was eviscerated or ready-to-cook. Now it's unusual to find a market where ready-to-cook poultry of some kind is not available.

But we are well advanced into an age of marketing high-quality, fresh-tasting, ready-to-cook poultry, with no chance of slipping back into ways of other days.

One big change in poultry marketing has been the rapid shift in the source of our chicken supply. In 1934, more than 90 percent of the chicken we ate came from farm flocks; primarily to produce eggs. Today, more than two-thirds of the chicken we eat comes from specialized broiler flocks.

While our demand for chicken grew, the supply of laying flock byproduct meat dropped.

Increased efficiency on the farm resulted in more eggs from fewer chickens. At the same time, farmers started buying more sexed pullets. This reduced

the number of cockerels.

These factors, along with financing and progress in raising meat birds, resulted in the

It wasn't until 1934 that broiler production became a billion-dollar business. By 1940, it was a \$2 billion business with about 14 million birds produced. In 1955, Georgia Poultry State, exceeded this total.

New aspects of poultry marketing have been added to cutting costs and improving quality. The ultimate objective of the marketing research work of the Marketing Service has been to help the industry.

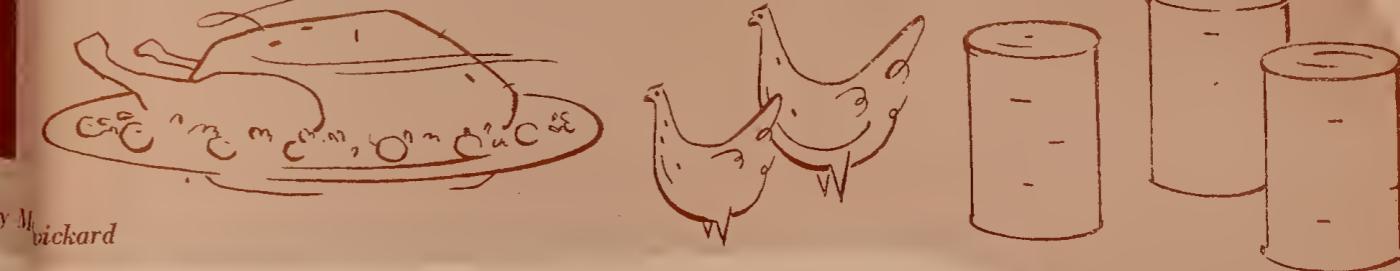
Underlying this effort is the desire to bring about progress within the industry. Progress in modernizing processing plants, promotional campaigns, and the distribution of poultry the year around. The Bureau of Agricultural Marketing Service and assists the industry group.

A very recent development in the field of antibiotics in poultry processing is the use of these wonder drugs in frozen poultry. Research is being conducted to determine whether antibiotics fed to chickens increase their shelf life. Long-term studies of the use of antibiotics should attract many new buyers.

Homemakers are finding



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By M. Vickard

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These factors, along with the development of broiler financing and progressive costs of producing meat birds, resulted in the growth of the broiler industry.

It wasn't until 1934 that AIA started keeping data on broiler production. At that time, it was a 19 million dollar business. By 1945, it was a 72 million dollar business with about 100 million broilers being produced. In 1955, Georgia's broiler-producing State, exceeded this.

New aspects of marketing have been related to cutting costs of the product, with the ultimate objective being the consumer. Much of the marketing is conducted by Agricultural Marketing Service in this direction.

Underlying this increased cooperation within the industry is making rapid progress in modern marketing functions. It plans promotional efforts for the retail sale of poultry the year around. Food Distribution Division of Agricultural Marketing Service cooperates with and assists industry in these programs.

A very recent development has been the use of antibiotics in poultry processing. Added to chill tanks, these wonder drugs increase the shelf life of fresh and frozen poultry. Research is also seeking to determine whether antibiotics at slaughter will increase poultry shelf life. Protection of fresh flavor by antibiotics should affect poultry users.

Homemakers are helped by inspection and grade marks

on more of the poultry they buy. An increased use of the Federal-State inspection and grading programs is one of the outstanding changes noted in poultry marketing. This voluntary inspection and grading is conducted under supervision of the Agricultural Marketing Service Poultry Division.

The advent of frozen foods has increased the availability of poultry for consumers. Lengthening the shelf life has made possible wider distribution and longer holding in the stores. Research continues searching for better methods of processing and packaging and of stuffing ready-to-cook birds.

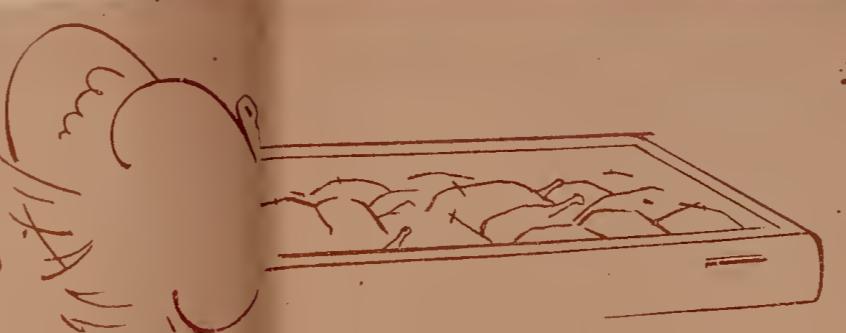
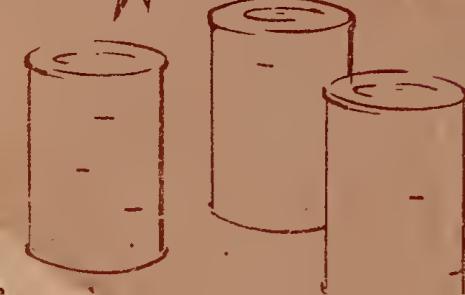
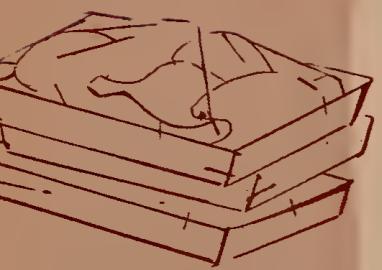
Sales of frozen prepared poultry increased by almost 60 percent in the past year. The popularity of these products is due largely to their convenience.

Fifteen years ago, whole canned and boned chicken were luxuries. Now industry competition has brought them well within the reach of most consumers.

The introduction of poultry parts has proved popular with consumers. They provide the convenience of buying chicken already cut for cooking.

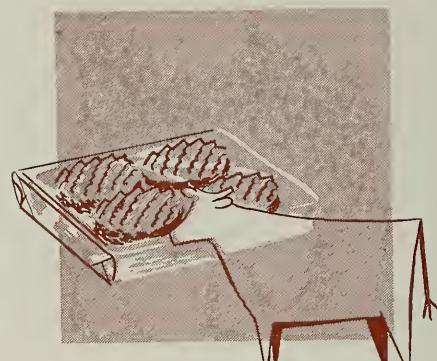
Along with chicken parts have come the refrigerated self-service show case and improvements in packaging. Consumers may now buy their poultry in film-wrapped packages that allow easy visibility and clean handling.

How these improvements in marketing have helped increase consumption is readily apparent. In 1934, per capita poultry consumption was 15 pounds. In 1955, consumption per person had increased to 27 pounds of poultry, ready-to-cook. ■



PREPACKAGED FROZEN MEAT

By James S. Toothman



The rapid increase in sales of prepackaged frozen meat underscores the importance of expanded facilities and improved methods of handling these products.

Production of prepackaged frozen meat in 1955 was less than 2 percent of the 16 billion pounds of fresh red meat marketed during that year. But some industry groups estimate that more than 20 percent of that market will be in frozen form by 1960.

To market in frozen form 20 percent of the current fresh meat volume, the trade would need facilities capable of handling an annual pack of about 3.3 billion pounds of dressed carcass weight. Specialists in the Marketing Research Division of Agricultural Marketing Service tell us that this amount is equivalent to 76 percent of the commercial pack of all frozen foods in 1955.

Marketing researchers say the outlook is favorable for merchandising a larger volume of prepackaged frozen red meat. But, they point out in a recent Agricultural Marketing Service study, central processing plants lack fully mechanized facilities for cutting, boning, cubing, grinding, and packaging the larger volume.

Once such facilities were installed the trade would still have to take time out to develop improved handling methods to reduce wholesale and retail costs.

The industry developed processing and marketing methods for prepackaged frozen meats over 25 years ago. But attempts to introduce retail distribution of the products at that time were unsuccessful. Changes in our marketing system since then have brought about a renewed interest in prepackaged frozen meats.

One change was the growth of the locker plant industry. With this came the home freezer. Currently, there are about 8,000,000 home freezers and over 10,000 locker plants in the United States. From these the consumer got a new look at packaged frozen meat.

Another change is that merchandising meat in pre-cut, weighed, priced, and packaged form in self-service refrigerated cases has become an accepted method of retailing in most present day markets. Here again, as has been noted in Agricultural Marketing Service

studies on marketing costs, many consumers like the convenience offered by precut and packaged food items.

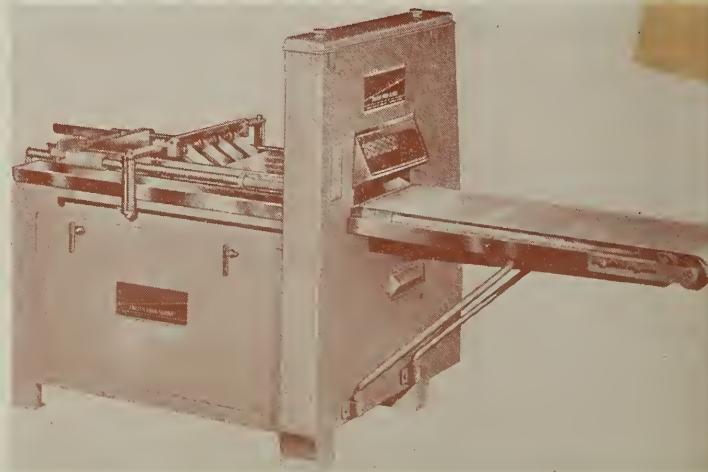
Many industry groups are attempting to develop new methods of marketing fresh red meat. They want to overcome some of the inefficiencies and limitations of conventional practices. They believe that central processing plants may offer the best solution.

Freezing is generally regarded as the most practical method currently available for centrally processing the meat and still preserving its fresh qualities. Industry has acquired extensive experience during its 25 years of freezing packaged fresh red meat for specialized purposes. Its experience has been that fresh red meat can be processed at any desired location.

They also learned that no appreciable change takes place in quality or texture of meats, providing they use proper freezing, packaging, and handling methods.

The Agricultural Marketing Service study showed that the largest number of firms, about 100, packaging frozen red meats at central plants produced frozen specialties, such as chip steaks, cutlets, chopettes, and various ground meat products. These firms were well scattered throughout the United States, usually in or near large cities.

High-speed automatic frozen meat slicer designed to slice compressed blocks, logs, or loaves of tempered frozen boneless meat.



Most specialty meat items are manufactured from lower grades of meat. Much of the machinery used has been adapted from other food-processing operations. Recently, a slicing machine and hydraulic press have been introduced. Both are especially designed for frozen-meat processing. Substantial savings in production costs are claimed for these devices.

A growing number of meat jobbers serving restaurants and institutions, and of national and local packers, produce both specialty items and portion-control frozen meat packs—cuts of uniform size and weight.

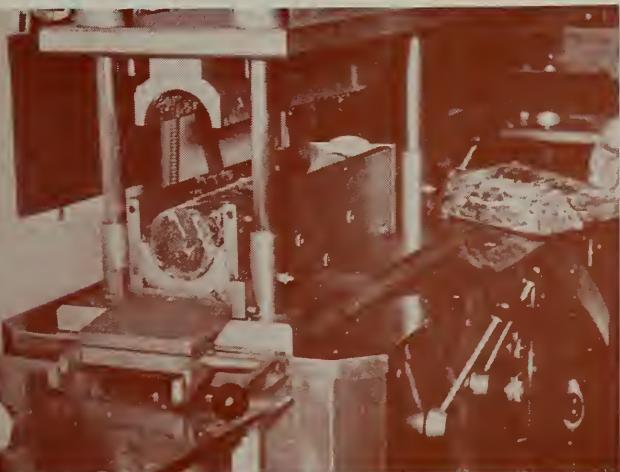
Producing portion-control steaks and chops is mostly a manual operation. It requires precise cutting and trimming skill. After cutting, the pieces are separated according to size, weight, and grade for packing in master cartons.

Processors and retailers generally agreed in their discussions with Agricultural Marketing Service marketing research specialists that nontransparent packaging is best suited for frozen meat. They like cartons because they provide for uniform package sizes and permit complete labeling information. Processors and retailers emphasized the importance of including adequate descriptive information on labels to aid consumers in their selection and cooking of meats.

Industry researchers are working on the development of improved wax or plastic-type coating applied by dipping. A few firms used a wax-dip coating on frozen meat cuts. Marketing tests will be made this year of at least 2 other types of coating materials. One or more of the coating materials in process of development may also prove adaptable for packaging nonfrozen meats.

Industry people believe that central prepackaging and freezing offers the trade a real opportunity to increase labor productivity in meat processing, lower

Hydraulic press designed to shape tempered frozen solid meat cuts or loaves of ground meat preparatory to portion meat-slicing.



transportation costs, and reduce overhead charges for meat retailing. They feel that these features are becoming increasingly important in maintaining a favorable competitive position for red meats.

Industry feels it can achieve additional savings in marketing costs by the elimination or reduction of shrink, downgrading, and spoilage losses regularly incurred at the wholesale and retail levels in conventional meat-handling practices.

Some of the economic advantages of central prepackaging can be estimated with reasonable accuracy. Weight reduction, accomplished by fully trimming retail cuts at the point of slaughter, to remove bone and excess fat, may save as much as \$120 to \$160 per car in freight costs between principal meat producing and consuming areas. At 1955 byproduct prices, packers could recover about \$7 more than retailers from the fat and bone trim of a 600-pound beef carcass.

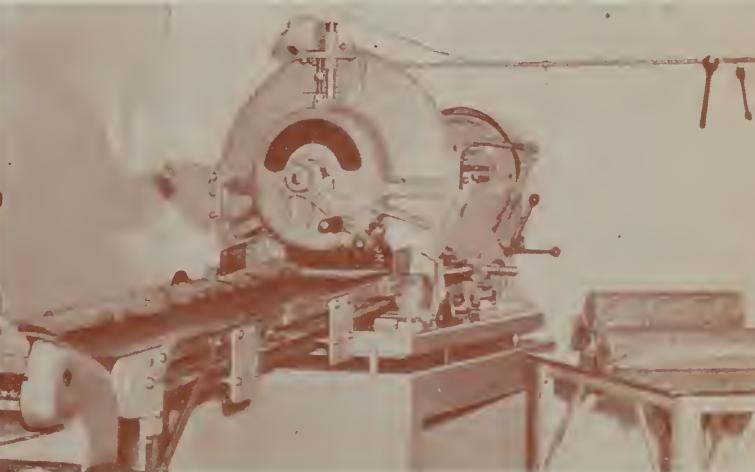
There are several costs in frozen meat processing and marketing which may offset a considerable part of the estimated savings. What these costs amount to cannot yet be calculated. Several factors are involved:

(1) Fully mechanized central processing facilities are yet to be installed. Once installed, studies must be made to measure possible gains in productivity.

(2) Possible reduction in wholesale and retail costs can be determined only after efficient methods for handling large volumes of packaged frozen meat are established and comparisons made with typical fresh-meat handling costs.

But the possibilities that both merchandising and economic gains can be realized appear sufficiently promising to justify continued promotional effort by the industry and to justify research in central prepackaging development.

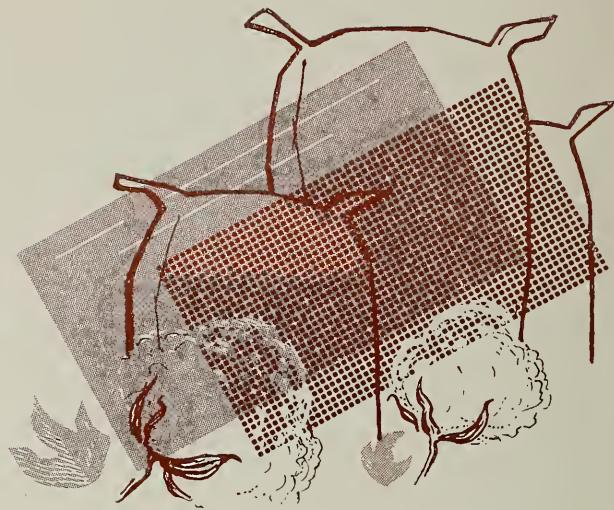
Meat portions being cut from compressed frozen logs by a heavy-duty slicing machine. Slices are fed manually to cubing machine.



CLASSIFYING COTTON

under the Smith-Doxey Act

By Ronald E. Betts



The practice of marketing cotton on a "hog-round" basis has declined steadily since the Smith-Doxey Act went into operation in 1938. This was the practice, common in many markets, of buyers paying the same prices for all cotton purchased during the day.

Such a system gave little incentive to quality production. In fact, it promoted a tendency toward both inefficient production harvesting practices and marketing. Producers of higher grade and longer staple cotton were penalized while producers of lower grade and shorter staple cotton, in effect, were given a premium. The marketing system suffered the expense of a separate sampling and classification every time a bale of cotton changed hands.

The Smith-Doxey program has helped correct this situation. Acceptance of the program speaks for its worth. In 1938, only 1 percent of that year's crop was classified under the act. But in 1955 the Cotton Division of Agricultural Marketing Service classified 85 percent of the crop produced.

The Smith-Doxey program works toward efficient marketing by starting with the producer. It furnishes him classing and market news services free of charge—if he is a member of a "group of producers organized to promote the improvement of cotton."

Such a cotton improvement group elects officers; selects a single variety of cotton, some of which must be planted by each member of the group; and applies for the services before the annual deadline established by AMS. When the services are furnished, the producer must make arrangements for sampling and agree to abide by regulations covering sampling under the act.

Most of these groups are organized around cotton gins, although some have been set up around warehouses where the warehousemen act as sampling agents. In many places, the varieties planted within an area have

become so standardized that many of the groups are now countywide.

The group's bonded sampler takes a sample from each bale of cotton and sends it to an official classing office. The samples are mailed postage free in sacks furnished by Agricultural Marketing Service. Each sample weighs approximately 6 ounces, composed of 3-ounce portions from each side of the bale.

The sampler places a "green card" bearing the producer's name and address between the two halves of the sample. When samples are received in the Agricultural Marketing Service classing office, they are classed by government employees. Classification is based on the official standards for United States cotton. The AMS office stamps the grade and sample length on the "green card," and returns the card to the producer.

Under Smith-Doxey, Agricultural Marketing Service issues weekly market reports showing prices of various qualities of cotton currently being marketed in a particular area. These are sent to group representatives, sampling agents, and, where requested, to individual members of cotton improvement groups.

Smith-Doxey does more than contribute to improving the efficiency of marketing cotton. A farmer may use the information obtained from the quality data to select varieties of cotton for planting best suited to his particular area and growing conditions. The program can even be used to determine the type of cultural practices and harvesting methods that will result in the highest net return to a grower.

The program is accepted as a marketing aid in the marketing channel—from the grower to the ultimate consumer.

In purchasing cotton, ginners, buyers, and merchants frequently accept the "green card" without additional classing or sampling. A substantial volume of cotton

is "taken-up" by cotton merchants directly from the producer on the basis of the quality shown on the "green card." This has lowered marketing costs by eliminating inspection and sampling of the cotton before acceptance by the merchant.

Mills purchase a considerable volume of cotton directly from producers or merchants on the basis of the "green cards." Such purchases tend to reduce the cost of marketing by reducing duplicate sampling. This results in a more efficient marketing system.

This need for quality control and improvement in cotton is paramount. Raw cotton in its usual marketable form consists of masses of fibers packaged, for convenience of handling, in bales. In a single pound of cotton there may be 100 million or more individual fibers. The individual fiber is the unit upon which the spinning quality of cotton depends.

Hundreds of thousands of farms in this country produce cotton, and in a single year much variation is found in the quality of this production. Variation occurs in the quality of cotton grown on a single farm—in fact, it is frequently found within a single bale. These variations of quality result from the differences in soils, rainfall, irrigation practices, fertilizers, temperatures, varieties planted, tillage methods, insect damage, methods of harvesting, and ginning methods.

In the manufacture of cotton, uniformity of quality in the raw material is desired. The amount and quality of yarn and cloth that can be made from a bale of cotton vary directly with the amount and kind of trash in the cotton. The color of the cotton fibers affects its usefulness in the bleached goods and its adaptability to dyes and other finishes.

Smoothness of ginning and the extent of fiber imperfections affect the quantity of manufacturing waste and the smoothness and uniformity of yarn produced. Length of staple affects the fineness and strength of yarn. The various procedures required in the grading and classing of cotton require particular care and discrimination.

It is necessary to select or classify from the bales of diverse qualities that are produced on farms those that will fall into lots that are nearly uniform in quality.

The Smith-Doxey classification has been accepted as trading basis in many parts of the Cotton Belt. Where it is used, it has eliminated the expense of a separate sampling and classification every time a bale of cotton changes hands, and has resulted in the marketing of bales in better condition. All this has cut marketing charges, and proved a boon both to those who grow cotton and those who buy cotton.



Modern classing room equipped with artificial lighting.



MARKET NEWS BROADCASTING

By Lance G. Hooks

The most inquisitive man in every terminal market is the Agricultural Marketing Service market news reporter. From the early morning hours, Monday through Friday, he's busy talking to salesmen, buyers, brokers, and all the other operators who are busy themselves marketing agricultural products.

And he's always asking questions, questions. At the produce terminal market you will hear him ask: What's the price on those watermelons? Did the lettuce arrive in good shape? How many carlots are you unloading this morning? Are potatoes moving?

The Agricultural Marketing Service market news reporter wants to know prices, volume, rate of movement, demand, trading, quality and condition of offerings, and related information.

When he gets his questions answered he takes time out to call the local radio station and report market conditions. And he gives the same information to local newspapers, trade groups, and press associations. In doing all this, he helps to keep our marketing system functioning efficiently.

This broadcasting of market news has been going on now for 35 years. May 19, 1921, marked the first day of regularly scheduled radio reports. This was aired by radio station KDKA, Pittsburgh, Pa. It covered vegetables and fruits, was prepared by the local USDA market news reporter, the late J. K. Boyd, and was voiced by a KDKA staff member.

Before the development of voiced broadcasting, some market news was transmitted by wireless. Earlier the same year—in February 1921—the University of Minnesota experimented briefly with radio telephone broadcasting of market news. St. Louis University also conducted some early experiments along this line.

But paving the way for future voice broadcasts were the earlier broadcasts in code, over short wave. The first broadcast by short wave was presented on December 15, 1920, over Station WWX, operated by the U. S.

Bureau of Standards. Compiled by the U. S. Department of Agriculture, these market reports were relayed by wireless from Washington, D. C., to Bellefonte, Pa., St. Louis, Mo., and Omaha, Nebr. Each of these cities served a territory within a radius of about 300 miles.

Some 2,500 radio "ham" operators, located in these territories, took down the reports, and helped transmit them by posting them in railroad stations, post offices, banks, and country stores. By June 1921, market reports in Morse code were being received in 31 States.

This development in short-wave broadcasting resulted from a chance thought of W. A. Wheeler, then in charge of market information in the USDA Bureau of Markets, now part of the Agricultural Marketing Service. The idea came to him as he watched his son, a "ham" operator, sending and receiving messages.

The popularity of the market news broadcasts grew rapidly during the first few years. By April 1922, of the 129 standard band stations 36 were broadcasting one or more reports every day. These reports of market activities were picked up by listeners in over two-thirds of the United States.

Year after year, market news broadcasting has continued to expand—in keeping with the large increase in the number of broadcasting stations. In 1950 we saw the first experiments in telecasting market news. Now many TV stations carry market news as a regular feature on farm programs.

USDA makes periodic surveys to determine the extent of market news dissemination through radio and TV. Our last survey, in the fall of 1954, showed that more than 1,300 radio stations and 82 TV stations were broadcasting market news. A new survey to determine the use of market news by current broadcasters is in progress. Results will be available in a few months.

The purpose of the USDA market news service since its beginning has been to collect and distribute regularly and promptly through all means of communica-

tion, accurate information on current market conditions and to aid in the effective distribution and fair pricing of farm products. The first report, covering the marketing of strawberries, was issued from Hammond, La., March 1915.

During its early years the USDA distributed the market information it collected largely by posting in the market places, by mimeographed reports, by mail, and by telephone at the expense of the recipient.

Beginning in 1917 a weekly summary, known as "The Weekly Review," was prepared in the Fruit and Vegetable Division and sent to agricultural and trade papers. During the 1920's many steps were taken to broaden the weekly reports through daily and weekly newspapers. Our last survey, conducted in the spring of 1951, showed that market news was being carried by 1,046 newspapers with a daily circulation of nearly 37 million. The daily circulation of all newspapers then was approximately 53 million.

The value of market information, particularly that received over the radio, is well illustrated at some livestock markets, where what is known as a radio session is held in the afternoon. In these instances, producers listen to market broadcasts and, if market conditions are favorable, livestock is immediately loaded and taken to the market that day. These broadcasts provide hour-to-hour information on the markets.

In a 1948 survey of 178,000 Iowa farmers who marketed any of that State's 6 major products, 92 percent listened to market reports from day to day before their most recent sale of at least one of those products.

A number of stations supply remote control facilities that enable Agricultural Marketing Service market reporters to broadcast direct from a market. Some stations provide 3 to 5 market broadcasts a day so that the territory they serve may be kept fully and promptly informed about price trends and other important changes in market conditions. Market news is now available over most radio stations serving rural areas.

Radio stations now obtain market news from 119 year-round and 33 seasonal Agricultural Marketing Service offices. Coverage has been expanded and market reports now carried by radio stations include market information on all principal types of farm products, such as fruits and vegetables, dairy and poultry, livestock, cotton, grain, and tobacco.

Market news broadcasting has grown to be a strong link in the marketing network that channels farm products from the farmer to the ultimate consumer. It has come to this because it has proved itself of practical value in furthering the efficiency of our marketing system during its 35 years of service.



An AMS market news reporter takes a look at peppers while getting information for the daily market report on this commodity.



Market news to farmers in 1923. A farmer uses his crystal detector set to get his market news information direct from Washington.



Watching a market news TV program telecast from Birmingham, Ala.

OFFICIAL BUSINESS

A NEW FACE AND A NEW NAME



Thirty-five years ago—and a little more—the Bureau of Markets in the U. S. Department of Agriculture launched a weekly mimeographed publication called “State and Federal Marketing Activities.”

The first issue dated March 14, 1921, described it as “Inauguration of a Clearing-House Service.”

Eighteen years later, in July 1939, when an earlier Agricultural Marketing Service came formally into being, the title was shortened to “Marketing Activities” and the issuance changed to monthly.

Now after another 17 years a newer and more comprehensive Agricultural Marketing Service is strengthening this publication as one of many steps to bring the techniques of marketing into full partnership with the techniques of production, in service to producers, handlers, and consumers of American farm products.

The publication will report on all fields of work covered by the Agricultural Marketing Service: marketing research, crop and livestock estimates, outlook work and other economic analyses, market news, food distribution, grading, classing, standardization and inspection of farm products, marketing agreements, orders, and regulatory programs, and freight rate services.

We hope particularly that it will be increasingly useful to all who are engaged in marketing of farm products, and particularly to State marketing officials, employees of State agricultural colleges and experiment stations, and State agricultural extension services interested in marketing. It was these groups, primarily, that the original weekly mimeographed publication was established to serve.

We have changed the name to emphasize the fact that the publication is serving agriculture and that it covers all the work of the Agricultural Marketing Service. We have changed the appearance to make it easier and more attractive to read, and to make it possible to reproduce detailed photographs or drawings.

We will print more copies, to make it available to more people who can either put the information to use themselves or pass it along to others. We offer this as one small contribution toward making the most efficient agricultural marketing system in the world become still more efficient and so keep pace with the growth and progress expected of this nation.